

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
10 February 2005 (10.02.2005)

PCT

(10) International Publication Number
WO 2005/011846 A1

(51) International Patent Classification⁷: **B01D 53/32**,
A61L 9/22, F24F 3/16, H01T 23/00, C01B 13/11, H01T
19/00

(21) International Application Number:
PCT/GB2004/003151

(22) International Filing Date: 19 July 2004 (19.07.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0316837.4 18 July 2003 (18.07.2003) GB
0409547.7 29 April 2004 (29.04.2004) GB
0410648.0 13 May 2004 (13.05.2004) GB
60/577952 8 June 2004 (08.06.2004) US

(71) Applicant and

(72) Inventor: **HALLAM, David, Richard** [GB/GB]; 286
Hyde Road, Denton, Manchester M34 3EH (GB).

(74) Agents: **MACDOUGALL, Donald, Carmichael et al.**;
Cruikshank & Fairweather, 19 Royal Exchange Square,
Glasgow G1 3AE (GB).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AI, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

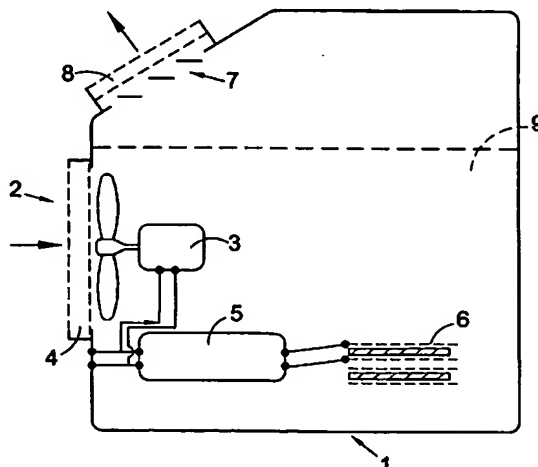
(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

[Continued on next page]

(54) Title: AIR CLEANING DEVICE



(57) Abstract: The present invention provides an apparatus (1) for the treatment of air comprising a low power corona discharge ozone generator (5,6) inside a chamber (9) having an inlet (2) and an outlet (7), and at least one air flow impeller (3) for inducing a flow of air through the chamber (9). The ozone generator (5,6) is formed and arranged for generating a restricted concentration of ozone, within an inactivating zone (10) contained within the chamber (9), through which the air flow is passed. The restricted concentration is sufficient to inactivate airborne pollutant material entrained in the air flow, yet decays sufficiently outside the inactivating zone so that the concentration of ozone in the cleaned air expelled from the apparatus (1) is at a physiologically acceptable level without the use of an ozone decomposition catalyzer.

WO 2005/011846 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.